

REMARKS

Claims 1-11 were previously pending in the application. Claims 9-11 have been withdrawn. New claims 12-15 have been added. Reconsideration of the rejection of claims 1-8 and allowance of these claims along with claims 12-15 are respectfully requested.

Rejections Pursuant 35 U.S.C. § 102

Claims 1-8 stand finally rejected under 35 U.S.C. 102(e) as being anticipated by *Bone* (U.S. Pat No. 6,647,309). Reconsideration of this rejection is respectfully requested.

***Bone* does not disclose “determining one physical object from the plurality of physical objects which *best characterizes* the plurality of physical objects” as recited in claim 1.**

The Final Office Action asserts that “*Bone* teaches on Col.8, lines: 5-15 that a child lot is formed to undergo subsequent testing when a processing error is detected.” The phrase “child lot” is mentioned in *Bone* in paragraph in col. 6, lines 10-22, and the paragraph in col. 8, lines 5-13. In fact, *Bone* lacks any disclosure or suggestion of a particular selection of wafers which ***best characterizes*** a particular lot of wafers. The “child lot” in *Bone* is either specialized test wafers (trial lot wafers or look-ahead wafers) or randomly selected wafers that are scattered through a particular lot. There seems to be no selection of wafers from the specialized test wafers. Where there is a selection, it is a random selection of wafers. *Bone* neither discloses nor suggests any particular standard, threshold level, or criteria for ***selecting*** any wafers for the “child lot”.

The Final Office Action asserts that “the formation of this child lot requires a determination that the wafer selected is the *best* to be selected into the child lot.” However, *Bone* fails to include any disclosure or suggestion of what would be a “best” wafer, a determination, and selection of such a “best” wafer.

In the Advisory Action mailed October 17, 2006 it is asserted that

the randomly selected wafers is the equivalent of a best characterization of the condition of the wafers of the lot. The random selection ensures that the condition of the lot of wafers is represented and hence is a best characterization of the lot of wafers.

However, this assertion merely corresponds to conventional teaching as understood in the prior art. In the Background of the Invention section of the present application, e.g., at paragraphs [0003] to [0004] of US Patent publication number 2004/0241885, it is noted that

To monitor and assess the manufacturing process completely, it would be necessary to test each individual wafer which has been produced....

[0004] According to the prior art, this is resolved [] statistically (i.e., **by randomly selecting random samples from a lot of wafers** after completion of the manufacturing process.... Test measurements are usually carried out on this random sample. *(emphasis added)*

Paragraphs [0005] to [0007] identify limitations of the conventional technique suggested by the Advisory Action and *Bone*:

[0005] Although this [random selection] procedure has the advantage that it can be carried out quickly and at low cost, it has the disadvantage that in the case of this procedure the ascertained quality of the wafers is subject to chance events. If in the arbitrary selection of the random sample a wafer of poor quality is taken, the poor quality is ascribed to the overall lot....

[0007] Consequently, according to the prior art, quality values of wafers and of the manufacturing process are subject to statistical fluctuations about which no statements can be made. The statement depends on the random selection of the tested wafer.... To obtain statements concerning the soundness of the quality assessment or to make the quality assessment statistically more significant, the number of wafers that are subjected to the test measurement would have to be increased.

Thus, *Bone* and other random sampling techniques result in quality assessments which are not accurate enough, and are subject to variations due to the random selection. A poor example wafer may be selected as the random sample, ruining the characterization of all wafers.

In contrast, the present invention defined by claim 1 features acts of “performing an analysis by using values of at least one process parameter ...” and “determining one physical object ... which best characterizes the plurality of physical objects, based on the analysis of the at least one process parameter....” As the present application explains at paragraph [0013], “It is not the case as in the prior art that a random sample is arbitrarily taken from the lot and subjected

to an SPC [statistical process control] measurement, but instead those random samples of a particular quality typical of the overall lot are selectively taken. The method consequently allows active random sample selection on the basis of process data.” This is a feature simply not available in accordance with the conventional prior art.

Moreover, the assertion of the Advisory Action that “the randomly selected wafers is the equivalent of a best characterization of the condition of the wafer of the lot” might be correct only if all of the manufactured wafers are identical. However, the user of the word “values” (plural) as compared to “value” (singular) in the limitation of claim 1, “performing an analysis by using **values** of at least one process parameter of the manufacturing process of a plurality of physical objects” (*emphasis added*) indicates that the value of the process parameter *differs* between the various physical objects manufactured. Furthermore, if the process parameter would not differ between the physical objects manufactured then the process limitations in claim 1 would be superfluous.

Accordingly, reconsideration and allowance of claim 1-8 are respectfully requested. New claims 12-15 are submitted to claim additional disclosed but unclaimed subject matter. No new matter is added by these amendments. Support for these amendments may be found throughout the application, including paragraphs [0019], [0028] – [0032] and [0089] of US Patent publication number 2004/0241885.

With this response, the application is believed to be in condition for allowance. Should the examiner deem a telephone conference to be of assistance in advancing the application to allowance, the examiner is invited to call the undersigned attorney at the telephone number below.

Respectfully submitted,



John G. Rauch
Registration No. 37,218
Attorney for Applicant

December 26, 2006
BRINKS HOFER GILSON & LIONE
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200